

California MEDICAL ASSOCIATION

Transfer of Patients for Therapy

The following statement regarding requests for transfer of patients from one county to another for certain types of therapy not available locally, was prepared by the Cancer Commission of the California Medical Association.

OWING TO sensational and usually premature announcements in the daily press, monthly magazines and newsreels, many persons gain the impression that ultra high voltage radiotherapy devices have peculiar properties rendering them especially desirable in certain types of tumors. The unrestricted transfer of patients is not regarded as sound medical policy and should only be done after the most careful consideration of all the facts. The facts of the matter are as follows:

1. Megavoltage radiotherapy units have been available since 1910. At that time the first radium cannons were developed and these had energies equivalent to approximately 1.5 million electron volts. Radium cannons produce gamma rays which have similar cancer destroying properties to those of high voltage x-rays.

2. Million volt x-ray tubes have been in use since 1927. To date, none have been proved to have curative powers that do not exist in 200 KV x-ray tubes. Nevertheless, for some patients there are some technical advantages in the use of ultra high voltages.

3. Radioactive cobalt has been available for about ten years. It offers a beam with a mean energy of about 1.2 million electron volts. Its properties are similar to those of x-rays and radium. It may be used in the form of needles, solution, cannons, interstitial applicators, bombs, and so forth.

4. Very high voltage machines delivering beams of ionizing radiation with energies of millions of electron volts have been on trial for some time. They may be in the form of circular accelerators, linear accelerators and so forth. There is as yet no proof that these beams can accomplish any more than conventional x-ray beams. It is true that as much as 100 per cent of the beam of some of the ultra high voltage units penetrates to the deepest structures of the body. There is an impression that radiation sickness is less with ultra high voltage, but radiation

sickness is not a critical factor in the administration of radiotherapy to most cases. Ultra high voltage x-ray units permit the delivery of destructive doses to cancerous growths deep in the body with less damage to the skin, especially if rotational therapy is utilized. All radiation is damaging and it is impossible to completely shield the normal tissues at any voltage. However, the skilled radiotherapist, by suitable adjustment of his beams, may produce large amounts of ionizing radiation at any depth without permanently injuring the skin. This is possible with high voltage and ultra high voltage. Transient skin erythema with blistering and subsequent tanning is of no major import, and other changes are of no importance compared to the curing of cancer.

5. Research is continuing in these fields of high energy radiotherapy. Just as soon as improved cures are obtained by such means, announcement of that fact will be made in scientific medical journals and in channels of popular medical information. Significant improvements in surgical or radiological cures of cancer are usually a matter of evolution and not revolution. They come gradually and painstakingly, and not overnight. The American Cancer Society as well as the Cancer Commission deplores the needless raising of false hopes by premature publicity concerning new techniques or apparatus of any type. Physicians treating cancer by radiological methods will continue to place major dependence on competent radiologists using carefully calibrated x-ray and radium therapy apparatus.

(See also "Cobalt Bombs." *California Medicine*, 77:271, Oct. 1952.)

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